

Abstract

1 A method for roughening a surface of an ion exchange system structure using
2 laser interaction with a surface. The laser surface roughening process allows the use of a
3 wide range of substrates such as metals, ceramics, silicates, polymers and the like,
4 including varieties which can not be fabricated in a fine fibrous structure. The surface
5 roughened ion exchange system structure may be used as an ion-exchange media in
6 applications such as fuel cells, batteries, and other catalysis systems where a high surface
7 exchange area is desirable.